



**Prof. K. Sreenivas**

**Dept. of Physics & Astrophysics,  
University of Delhi, Delhi -110007 India**

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Designation	Professor							
Department	Department of Physics and Astrophysics							
Address (Campus)	Department of Physics and Astrophysics University of Delhi, North campus, Delhi-110007, India							
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Web-Page	<a href="http://www.du.ac.in">www.du.ac.in</a>							
Education								
Subject	Institution			Year	Details			
Ph.D. (Physics)	University of Delhi			1980-1985	Sputtered ITO thin films and studies on MFS-FRAM and ferroelectric non-volatile memories			
M.Phil (Physics)	University of Delhi			1981-1982	Subjects: Experimental Physics			
M.Sc.(Tech) Applied Physics	Andhra University			1977-1980	Subjects: Electronics			
Jr. Diploma –Russian	Andhra University			1978-1979	Junior diploma in Russian Language			
Jr. Diploma in Tech Edn.	AP Board of Technical education			1972-1973	Junior Diploma in Type writing			
B.Sc. (Physics main)	Andhra University			1974-1977	Subjects: Mathematics, Physics and Chemistry			
Career Profile								
Organization / Institution	Designation			Duration	Role			
International relations, Univ. of Delhi	Dean – Intl Relations (Science & Tech.)			2008- 2017	Additional charge – Administration			
Univ. Sci. Instrumentation center, Univ. of Delhi	Director			2006 - continuing	Additional charge – Administration			
Dept. of Physics and Astrophysics Univ. of Delhi	Professor Assoc. professor			2005- continuing 1997-2005	Teaching, Research and Administration Teaching and Research			
Indian Space Res. Orgn, (ISRO) –B'Lore	Scientist/Engineer – E			1996 (Jan to Nov.)	Research & Development			
Royal Inst. of Technology (KTH) Stockholm	Visiting Scientist			1993-95	Research and Development			
Swiss Fed. Inst. of Technology, EPFL Lausanne, Switzerland	Group leader			1989-92	Research and development			
Queen's Univ., Kingston, Canada	Manager, Ontario center of Excellence Post Doctoral fellow			1988-89 Dec. 1985-87	Manager, Ontario Center of Excellence Postdoctoral Research			
Research Interests / Specialization								
Condensed Matter Physics (Experimental), Dielectrics, Ferroelectrics, and Piezoelectric properties of ceramics, composites, single crystals. Sputtered films. Magnetron sputtering, Surface acoustic wave (SAW) devices, Ferroelectric memories, Acousto-electric and Magnetoelectric effects, UV light detectors, and Light Up-conversion effects.								
Teaching Experience ( Subjects/Courses Taught)								
Electronics – (Signals and Noise, Communication Systems, & Digital Signal Processing) – 3 <sup>rd</sup> Sem. M.Sc. (F)								
Semiconductor Devices – 4 <sup>th</sup> Sem. Advanced Electronics-Practical laboratory – Final year – M.Sc.(Physics)								
Electromagnetic theory and Electrodynamics M.Sc (previous)								
Honors & Awards								
1972 National Merit Scholarship, Govt. of India						UGC Nominee – For Center for Adv. Studies at		
1972-80 27 Best speaker/ Best Team prizes in English debating at College/Univ. level						1) University of Burdwan, W. Bengal		
1987, 1989 Annual Canadian Ceramo-graphic competition Awards. II prize						2) The Indian School of Mines, Dhanbad		

### Books / Monographs

<u>Year</u>	<u>Title (Chapters in the following books)</u>	<u>Publisher</u>	<u>Co-Author + Editor</u>
1993	Ferroelectric Ceramics	Birkhauser, Verlag	N Setter & E. Colla
2002	Principles of Communication	CBSE, New Delhi	CBSE, New Delhi
2006	Zinc oxide: Bulk, Thin films and Nano Structures, Processing and Applns,	Elsevier, U.K.	C. Jagdish and S.J. Pearton
2004	"Ferroelectric and Dielectrics" (Conference proceedings)	Allied Publishers, Delhi	R. P. Tandon, Chadraprakash V.Gupta, K. Sreenivas, A. K.Arora

### In Indexed/ Peer Reviewed Journals

<u>Year</u>	<u>Title</u>	<u>Journal Volume(year)page Nos.</u>	<u>Authors (First author + All Co-authors)</u>
2019	Effects of disorder activated scattering and defect induced phase on the ferroelectric properties of $\text{BaSn}_x\text{Ti}_{1-x}\text{O}_3$ ( $0 \leq x \leq 0.28$ ) ceramics	Ceramics international Accepted: July 2019 Doi.org/10.1016/J.Ceram.int.2019.07.058	Mohd Azaj Ansari and K. Sreenivas
2019	Light up-conversion and structural properties of Sn and Er <sup>3+</sup> doped $\text{Ba}_{0.995}\text{Er}_{0.005}[\text{Sn}_{0.06}\text{Ti}_{0.94}]\text{O}_3$ ceramics	AIP Conference Proceedings: Vol 2115, pp030001	Mohd Azaj Ansari and K. Sreenivas
2019	Cr-doped lead lanthanum zirconate titanate (PLZT) ceramics for pyroelectric and energy harvesting device applications	Ceramics International 45(11) 14111-14120	K. K. Bajpai, K. Sreenivas, A.K. Gupta and A.K. Shukla
2019	Multifunctional behavior of acceptor-cation substitution at higher doping concentration in PZT ceramics	Ceramics International 45(2019) 12316-26	N. Kumari, S. Monga, M. Arif, N. Sharma, Amit Sanger, Arun Singh, Paula M. Vilarinho, Vinay Gupta, K. Sreenivas, RS Katiyar and JF Scott.
2019	Higher permittivity of Ni-doped lead zirconate titanate $\text{Pb}[\text{Zr}_{0.52}\text{Ti}_{0.48}]_{(1-x)}\text{Ni}_x\text{O}_3$	Ceramic International 45(2019) 4398-4407	N. Kumari, S. Monga, M. Arif, N. Sharma, A. Singh, V. Gupta, PM Vilarinho, K. Sreenivas and RS Katiyar
2019	Structural, elastic and magnetic properties of spinel $\text{CoO}_3\text{O}_4$	Indian J. pure and applied Physics, 56(11) 890-895	P.L. Meena, Ravi Kumar and K. Sreenivas
2019	Phase evolution of strontium bismuth niobate ceramics by conventional solid state reaction method	J. Thermal analysis and Calorimetry 135(2019) 2077-2087	Maya Verma, Amit Tanwar, and K. Sreenivas
2018	Electronic structure and calculation of $\text{Sr}_2\text{CoWO}_6$ double perovskite using DFT+U	AIP Conf. proceedings; Vol 1942, pp:140083	Golak Mandal, Dhiraj Jha, A. K. Himanshu, Rajyavardhan Ray, P. Mukherjee, Nitish Das, B. K. Singh, K. Sreenivas, MN Singh, AK Sinha
2018	Thermogravimetric, dielectric and structural properties of $\text{BaSn}_{0.1}\text{Ti}_{0.9}\text{O}_3$ ceramics prepared by solid state	AIP conference proceedings 2009 (1019) pp020003	Mohd A. Ansari and K. Sreenivas
2018	Synthesis of multi-walled carbon nanotubes by thermal CVD technique on Pt-W-MgO catalyst	Doi: 10.1080/16583655.2018.1451114	Khurshed Shah Feroz A Nazar Tarun Sharda, and K. Sreenivas
2018	Pyroelectric properties of $\text{Ba,Cd,ZrTi}_3\text{O}_3$ ferroelectric ceramics in polymorphic state	Ceramics Intl. 44 (2018) 14698-14703	K. K. Bajpai, K. Sreenivas, A.K. Gupta and A.K. Shukla
2018	Influence of Sn doping in $\text{BaSn}_x\text{Ti}_{1-x}$ ceramics on microstructural and dielectric properties	AIP conference proceedings 1953(2018) pp: 090029	Mohd A. Ansari and K. Sreenivas
2018	Defect mediated ferromagnetism in cluster free $\text{Zn}_{1-x}\text{Ni}_x\text{O}$ nanopowders prepared by	J. Ind. Engg. Chem. 60(2018) 151-159	Saurabh Kunj and K. Sreenivas

	combustion method			
2018	Influence of lone pair on structural and electrical properties of Sb substituted Bismuth layered $\text{SrBi}_2\text{Nb}_2\text{O}_9$	Materials chemistry and Physics 209(2018)159-164	Maya Verma, A. Tanwar and K. Sreenivas	
2017	Paper based ZnO thin film UV light detectors using graphite pencil based electrodes	Advanced materials Proceedings 2 (2017)428-432	Mohd A. Ansari, Daipayan Dasgupta and K. Sreenivas	
2017	Enhanced infrared-to-visible up-conversion emission and temperature sensitivity in ( $\text{Er}^{3+}$ , $\text{Yb}^{3+}$ , and $\text{W}^{6+}$ ) tri doped $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ ferroelectric oxide	J. Appl. Physics 121(8) 084101 (2017) DOI: 10.1063/1.4977006	Renuka Bokolia, Manisha Mondal, Vineet K. Rai, and K. Sreenivas	
2017	Structural and electrical properties of $\text{Dy}^{3+}$ substituted $\text{NiFe}_2\text{O}_4$ ceramics prepared from powders derived by combustion method	Ceramics international 43(11) 2017, 8378-8390.	Lalita Chauhan, Nidhi Singh, Ajay Dhra Harsh Kumar, Sudhanshu Kumar and K. Sreenivas	
2017	980 nm excited $\text{Er}^{3+}/\text{Yb}^{3+}/\text{Li}^{+}/\text{Ba}^{2+}$ : $\text{NaZnPO}_4$ upconverting phosphors in optical thermometry	J. of Luminescence 187 (2017), 368-377	Lakshmi Mukhopadhyay, Vineet Kumar Rai, Renuka Bokolia and K. Sreenivas	
2017	Influence of Cd doping on the electro-strain of barium zirconate titanate ceramics	Ceramics international 43(2017) 1963-1967	K. K. Bajpai, K. Sreenivas, O. P. Thakur, A. R. James and A. K. Shukla	
2016	Defect free C-axis oriented zinc oxide (ZnO) films grown at room temperature using RF magnetron sputtering	AIP Conf Proceedings 1731, 080048	Saurabh Kunj and K. Sreenivas	
2016	Microstructural changes in NiFe <sub>2</sub> O <sub>4</sub> ceramics prepared with powders derived from different fuels in sol gel auto combustion technique	AIP Conf Proceedings 1731, 140043 DOI:10.1063/1.4948209	Lalita Chauhan, Renuka Bokolia, and K. Sreenivas	
2016	Electrical properties of NiFe <sub>2</sub> O <sub>4</sub> ceramics and size dependent metal to semiconductor transition	Advanced Science Letters 22 (2016) 3857-3859	L. Chauhan and K. Sreenivas	
2016	Structural and light up-conversion luminescence properties of $\text{ER}^{3+}$ , $\text{Yb}^{3+}$ , and $\text{W}^{6+}$ substituted $\text{Bi}_4\text{Ti}_3\text{O}_{12}$	AIP Conf Proceedings 1731, 140042 (2016) DOI: 10.1063/1.494208	Renuka Bokolia, Vineet Rai, Lalita Chauhan and K. Sreenivas	
2016	Study of the structure dielectric and ferroelectric behavior of BaBiTi <sub>4</sub> O <sub>15</sub> ceramics	AIP Conf Proceedings 1731, 030026(2016)	Anita Khokar, Parveen Goyal, O. P. Thakur, K. Sreenivas	
2016	Near band edge emission characteristics of sputtered nano-crystalline ZnO films	AIP Conf proceedings 1728, 020520-4 (2016) DOI: 10.10631/1.4946571	Saurabh Kunj and K. Sreenivas	
2016	Properties of NiFe <sub>2</sub> O <sub>4</sub> ceramics from powders obtained by auto combustion synthesis with different fuels	Ceramic International 42 (2016) 12136-12147	Lalita Chauhan, A. K. Shukla, and K. Sreenivas	
2016	Residual stress and defect content in magnetron sputtered ZnO films grown on unheated glass substrates	Current Applied Physics 16(2016)748-756	Saurabh Kunj and K. Sreenivas	
2016	Electrical properties and light up conversion effects in $\text{Bi}_{3.79}\text{Er}_{0.03}\text{Yb}_{0.18}\text{Ti}_{3-x}\text{W}_x\text{O}_{12}$ ferroelectric ceramics	Ceramics International 42 (2016) 5718-5730	Renuka Bokolia, O. P. Thakur, V. K. Rai, S. K. Sharma, and K. Sreenivas	
2015	Conduction mechanism in Cobalt rich $\text{Co}_3\text{xMn}_x\text{O}_4$ (0.1 - 1.0) spinel oxide ceramics	Applied Science Letters 1(4) 2015, 110-114	P.L. Meena, Ravi Kumar and K. Sreenivas	
2015	Comparative studies of MgFe <sub>2</sub> O <sub>4</sub> nanoparticles synthesized using different	Journal. of atomic molecular condensate and	Shiva Upadhyay and K.Sreenivas	

	precursors by sol-gel auto combustion method	nano physics 2(2015)101-108		
2015	Ferri-magnetic order in Mn induced spinel $\text{Co}_3\text{-xMn}_x\text{O}_4$ (0.1 x 1.0) ceramic compositions	Journal of Magnetism and magnetic materials 403(2016)193-198	P.L. Meena, K. Sreenivas, M. R. Singh, Ashok Kumar, S. P. Singh and Ravi Kumar	
2015	Site selectivity of $\text{Sm}^{3+}$ ions in $\text{BaBi}_4\text{-xSm}_x\text{Ti}_4\text{O}_1$ ceramics and its influence on electrical properties	Materials letters 160(2015) 408-411	Anita Khokha, Parveen K. Goyal and K. Sreenivas	
2015	Dielectric and magnetic properties of Nickel ferrite ceramics using crystalline powders derived from DL alanine fuel in sol gel auto-combustion	Ceramics International 41(2015) 8341-8351	Lalita Chauhan, A. K. Shukla, and K. Sreenivas	
2015	Dielectric, ferroelectric and photoluminescence properties of $\text{Er}^{3+}$ doped $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ ferroelectric ceramics	Ceramics International 41(2015)6055-6066	Renuka Bokolia, O. P. Thakur, Vineet K. Rai, S. K. Sharma and K. Sreenivas	
2015	Influence of lanthanum distribution on dielectric and ferroelectric properties of $\text{BaBiLaTi}_4\text{O}_1$ ceramics	Materials Chem. and Phys. 152(2015) 13-25	Anita Khokkar, P. S. Goel, O. P. Thakur, A. K. Shukla and K. Sreenivas	
2015	Effect of excess of bismuth doping on dielectric and ferroelectric properties of barium bismuth titanate	Ceramics international 41(2015)4189-4198	Anita Khokkar, P. K. Goyal, O. P. Thakur, and K. Sreenivas	
2014	Microstructural design of piezoelectric $\text{ZnO}$ thin films as high frequency resonators	Ceramics Transactions, 249 (2014) 197-203	P. Abhinav, B. M. Skaria, B. Pramanick, K. Sreenivas, and S. B. Sant	
2014	Investigation of conduction phenomena in $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ ( $x = 0.05$ ) by impedance spectroscopy	Physica B 451(2014)114-119	S. Mahajan, O.P. Thakur, Chander Prakash and K. Sreenivas	
2014	Dielectric properties of spinel $\text{Co}_{3-x}\text{Mn}_x\text{O}_4$ ceramic composition	Indian Journal of pure and applied physics, Vol 52, (2014) 625-631	P .L. Meena, K. Sreenivas, and Ravi Kumar	
2013	Sintering characteristics and electrical properties of $\text{BaBi}_4\text{Ti}_4\text{O}_1$ ceramics	J. Alloys and Compounds 581 (2013) 150-159	Anita Khokkar, M.L.V. Mahesh, A. R. James, P. K. Goyal and K. Sreenivas	
2013	Influence of substrate temperature on structural, optical, and electrical properties of flash evaporated $\text{CuIn}_{0.8}\text{Al}_{0.19}\text{Se}_2$ thin films	Materials Chemistry and Physics 139 (1) pp.270-275	Parihar U, Sreenivas K, Ray J.R, Panchal C.J, Padha N, and Rehani B.	
2013	Rietveld refinement and FTIR analysis of bulk ceramic $\text{Co}_{3-x}\text{Mn}_x\text{O}_4$ compositions	AIP conference Proc. 1512, pp.1204-1205	Meena P.L, Ravi Kumar, and K. Sreenivas	
2013	Enhancement in electro-strain behavior by $\text{La}^{3+}$ substitution in lead free $\text{BaZr}_{0.05}\text{Ti}_{0.095}\text{O}_3$ ceramics	Materials Letters 97, pp.40-43	Mahajan S, Haridas D, Sreenivas K, Thakur OP, and Prakash C	
2012	Magnetoelectric effects in $\text{BaTiO}_3\text{-CoFe}_2\text{O}_4$ bulk composites	Solid State Communications 152, (21) pp.1951-1955	Agarwal S, Caltun O.F, and Sreenivas K.	
2011	Frequency hopping due to acousto electric interaction in $\text{ZnO}$ based surface acoustic wave oscillator	J. Applied Physics 110 (4), Art. No. 044502	Daipayan Dasgupta and K. Sreenivas	
2011	Enhanced UV photon-response of tin Nano cluster loaded laser irradiated $\text{ZnO}$ thin film detector	MRS Symp Proceedings 1288, pp.49-54 (2011)	Rashmi Menon, Sreenivas K., and Gupta V.	
2011	Enhanced response characteristics of $\text{SnO}_2$ thin film loaded with nano-scale catalytic clusters for methane gas	MRS Symp. Proc.1303, pp.169-176 (2011)	Haridas D, Chowdhuri A, Sreenivas K, Gupta V.	
2011	Effect of thickness of thin film $\text{SnO}_2$ based LPG	MRS Symp. Proc.1288,	Haridas D, Sreenivas K, and Gupta V.	

		pp.156-163 (2011)		
2011	Softening behavior of acoustic phonon mode in ZnO nanoparticles: the effect of impurities and particle size variation with temperature	J. Raman spectroscopy 42(8) pp.1620-1625 (2011)	Yadav H.K, Sreenivas K., Katiyar R. S., Gupta V	
2011	A-site substitution effect of strontium on Bismuth layered $\text{CaBi}_4\text{Ti}_4\text{O}_{15}$ ceramics on electrical and piezoelectric properties	Material Chemistry and Physics 130,(1-2), pp.95-103	Tanwar A., Verma M., Gupta V., Sreenivas K.	
2011	Origin of stress in radio frequency magnetron sputtered Zinc Oxide thin films	Journal of Applied Physics 109, 2011	Menon R, Gupta V., Tan H., Sreenivas K., Gupta V.	
2011	Enhanced room temperature response of $\text{SnO}_2$ thin films loaded with Pt catalyst clusters under UV radiation or LPG gas detection	Sensors and Actuators B: Chemical 153, pp.152-157 (2011)	Haridas D., Chowdhuri A., Sreenivas, Gupta V.,	
2011	Effect o thickness of platinum catalyst clusters on response of $\text{SnO}_2$ thin film sensor for LPG gas detection	Sensors and Actuators B: Chemical, 153, pp. 89-95 (2011)	Haridas D., Chowdhuri A., Sreenivas, Gupta V.	
2010	Effect of Mn doping on the dielectric and electrical conductivity of $\text{CaBi}_4\text{Ti}_4\text{O}_{15}$ ceramics	Ferroelectrics 404 (1) pp. 19-26 (2010)	Tanwar Amit., GuptaV., and Sreenivas K.	
2010	Dielectric and ferroelectric properties of $\text{SrBi}_2\text{Nb}_2\text{O}_9$ and $\text{SrBi}_{1.9}\text{La}_{0.1}\text{Nb}_2\text{O}_9$ ceramics	Ferroelectrics 404 (1) pp. 233-239	Maya Verma, A. Tanwar, K. Sreenivas and V. Gupta	
2010	Effect of Nd doping on structural, dielectric, electric and ferroelectric properties of $\text{Ba}(\text{Zr}0.05\text{Ti}0.95)\text{O}_3$ ceramic	Integrated ferroelectrics, 122, pp. 83-89	Mahajan S., Thakur O.P., Sreenivas K. and Prakash C.	
2010	Temperature dependent optical properties of c-axis oriented $\text{LiNbO}_3$ thin film using surface Plasmon Resonance	Journal of Light wave technology 28 (20) art No. 5560685, pp.3004-3011	Shandilya S., Tomar M., Sreenivas K., Gupta V.	
2010	Third generation Bio sensing matrix based on Fe-implanted ZnO thin film	Applied Physics Letters 97 (13) art. No. 133704	Saha S., Gupta V., Sreenivas K., Tan H. H., Jagadish C.,	
2010	PLD grown $\text{ZnO-K}_3(\text{Fe}(\text{CN})_6)$ composite thin film for bio-sensing application	Thin Solid Films 519 (3), pp.1184-1186	Saha S., Arya S. K., Singh S. P., Sreenivas K., Malhotra B. D., Gupta V.	
2010	Cross-sensitivity and selectivity studies on ZnO surface acoustic wave ammonia sensor	Sensors and Actuators B: Chemical , 147(2), pp.517-524	Raj, V. B., Nimal A. T., Parmar Y., Sharma M. U., Sreenivas K., Gupta V.	
2010	Persistent photoconductivity due to trapping of induced charges in Sn/ZnO thin film based UV photodetector	Applied Physics letters 96 (22) art. No. 223507	Yadav HK., Sreenivas K., Gupta V	
2010	Application of SnO2 thin film based electronic nose for industrial environment	2010 IEEE Sensors Applications Symp, SAS 2010 – Proceedings, Art No. 5439413, pp. e181-182	Haridas D., Chowdhuri A., Sreenivas, Gupta V.,	
2010	Study of metal/ZnO based thin film ultraviolet photo detectors: The effect of induced charges on the dynamics of photoconductivity relaxation	J. Appl. Physics 107 (4) art. No. 044507	Yadav HK., Sreenivas K., Gupta V	

2010	Contribution of adsorbed oxygen, and interfacial space charge for enhanced response of SnO <sub>2</sub> sensors having CuO catalyst for H <sub>2</sub> S gas.	Sensors and Actuators B: Chemical , 145(1), pp.155-166.	Chowdhuri A., Singh S. K., Sreenivas K., and Gupta V.	
2010	Improved ferroelectric & pyroelectric parameters in iminodiacetic acid doped TGS	J. Crystal Growth 312 (2) 273-275 (2009)	Rai C, K. Sreenivas and S. M. Dharmaprkash	
2010	Comparison of H <sub>2</sub> S sensing response of heterostructure sensor (CuO-SnO <sub>2</sub> ) prepared by rf sputtering and pulsed laser deposition	Thin solid Films 518 (24 suppl), pp.e181-182	Verma M, Chowdhuri A, Sreenivas K, Gupta V.	
2009	Contribution of adsorbed oxygen and interfacial space charge for enhanced response of SnO <sub>2</sub> sensors having CuO catalyst for H <sub>2</sub> S gas	Sensors & Actuators, B: Chemical 145 (1) pp.155-156	A. Chowdhuri, S. K. Singh, K. Sreenivas and Vinay Gupta	
2009	Temperature dependent SPR study of ZnO thin film	Materials Res. Society Symp Proceedings 1129, 293-297 (2009)	Shibhu Saha, K. Sreenivas and Vinay Gupta	
2009	Zinc oxide-potassium ferricyanide composite thin film matrix for bio sensing applications	Analytica Chemica Acta 653 (2) 212-216	Shibhu Saha, S. K. Arya, S. P. Singh, K. Sreenivas, B. D. Malohtra and Vinay Gupta	
2009	Temperature dependent optical properties of (002) oriented ZnO thin film using surface plasmon resonance	Appl. Physics Letters 95 (7) 071106 (2009)	Shibhu Saha, Navina Mehan, K. Sreenivas and Vinay Gupta	
2009	Dielectric studies of Co <sub>3-x</sub> Mn <sub>x</sub> O <sub>4</sub> (x=0.1 to 1.0) cubic spinel multiferroic	J. Applied Physics 106 (2) 024105 (2009)	P. L. Meena, Ravi Kumar, C. L. Prajapat, K. Sreenivas, Gupta V.	
2009	Growth of 4-(dimethylamino) benzaldehyde doped Triglycine sulphate single crystals and its characterization	Physica B: Condensed Matter 404 (21) 3886-3889 (2009)	Chitaranjan Rai, K. Sreenivas and S. M. Dharmaprkash	
2009	Purely hopping conduction in c -axis oriented LiNbO <sub>3</sub> thin films.	J. Applied Physics 105(9) 094105 (2009)	S. Shandilya, M. Tomar, K. Sreenivas and Vinay Gupta	
2009	Electrically tunable spatially variable switching in ferroelectric liquid crystal/water system	Appl. Phys. Letters 94(17) 174101	A. Choudhary, I. Coondo, J. Prakash, K. Sreenivas and A. M. Biradar	
2009	Effect of orthorhombic distortion on dielectric and piezoelectric properties of CaBi <sub>4</sub> Ti <sub>4</sub> O <sub>15</sub> ceramics	J. Applied Physics 105 (8) 084105	A. Tanwar, K. Sreenivas and Gupta V.	
2009	Structural and interfacial defects in C-axis oriented LiNbO <sub>3</sub> thin films grown by pulsed laser deposition on Si using Al:ZnO conducting layer.	J.Phys. D:Appl.Phys., 42(9) 095303(2009)	S. Shandilya, M. Tomar, K. Sreenivas and Vinay Gupta	
2009	Ferroelectric relaxor behavior and impedance spectroscopy of Bi <sub>2</sub> O <sub>3</sub> doped barium zirconium titanate ceramics	J.Phys. D:Appl.Phys., 42(6) 065413 (2009)	S. Mahajan, O. P. Thakur, D. K. Bhattacharya, and K. Sreenivas	
2009	Nano porous cerium oxide thin film for glucose biosensor	Biosensors and Bioelectronics 24 (7) 2040-2045 (2009)	S. Saha, S. K. Arya, S. P. Singh, K. Sreenivas, B. D. Malohtra and Vinay Gupta	

<b>2009</b>	Study of structural and electrical properties of conventional furnace and microwave sintered $\text{BaZr}_{0.1}\text{Ti}_{0.9}\text{O}_3$ ceramics	J. Am. Ceram. Soc., 92 (2) 416-433,(2009)	S. Mahajan, O. P. Thakur, D. K. Bhattacharya, and K. Sreenivas	
<b>2009</b>	ZnO based surface acoustic wave ultraviolet photo sensor	J. Electroceramics 22,(1-3) 198-202 (2009)	S. Kumar, G. H. Kim, K. Sreenivas and R. P. Tandon	
<b>2009</b>	Influence of La doping on structural and dielectric properties of $\text{SrBi}_2\text{Nb}_2\text{O}_9$ ceramic	J. Appl. Phys 105, 024511 (2009)	Maya Verma, K. Sreenivas and V. Gupta	
<b>2009</b>	Structural studies and Raman spectroscopy of forbidden zone boundary phonons in Ni doped ZnO ceramics	J. Raman Spectroscopy 40(4) pp. 381-386	H K. Yadav, K. Sreenivas, Gupta V, and R.S. Katiyar,	
<b>2008</b>	Effect of Smectic A temperature width on the soft mode in Ferroelectric Liquid Crystals,	J Appl. Phys <b>104</b> , 034105 (2008).	Amit Choudhary, S. Kaur, J. Prakash, K. Sreenivas, S. S. Bawa, and A. M. Biradar,	
<b>2008</b>	Temperature dependence of the dynamics of zone boundary phonons in ZnO:Li	J. Appl. Phys. 104, 113523 (2008)	H.K. Yadav, K. Sreenivas, Vinay Gupta and R.S.Katiyar	
<b>2008</b>	Nano porous Cerium Oxide Thin Film for Glucose Biosensor	Biosensors and Bioelectronics (2008) 24(7) pp. 2040-2045	Shibu Saha, Sunil Arya, S.P.Singh, K. Sreenivas, B.D. Malhotra, and Vinay Gupta	
<b>2008</b>	Low-frequency zone-boundary phonons in Li doped ZnO ceramics	J. Appl. Phys. 104, 053507	Harish K. Yadav, K. Sreenivas, V. Gupta, and R. S. Katiyar	
<b>2008</b>	Comparative studies on $\gamma$ -radiation sensor based disordered $\text{TeO}_3$ and $\text{TeO}_2$ thin films	Sensors & Actuators A 147 (1) pp. 115-20	Namrata Dewan, K. Sreenivas and V. Gupta	
<b>2008</b>	Influence of stress on the structural and dielectric properties of rf magnetron sputtered Zinc oxide thin film	J. App. Phys. 103 (2008) 094903.1-9	Rashmi Menon, K. Sreenivas, V. Gupta	
<b>2008</b>	Raman Spectroscopy and Dielectric studies of Multiple phase Transitions in ZnO:Ni	Appl. Phys. Lett. 92 (12) 122908	Harish Kumar Yadav, K. Sreenivas, Gupta V, J.F. Scott and RS. Katiyar	
<b>2008</b>	Improved response characteristics of $\text{SnO}_2$ thin film loaded with nano scale catalysts for LPG detection	Sensors & Actuators B 133 (2008) 270-275.	Divya Haridas, K. Sreenivas, V. Gupta	
<b>2008</b>	Theoretical studies on $\text{TeO}_2/\text{ZnO}$ /diamond layered structure for zero TCD SAW devices Diamond and Related Materials",	Semiconductor Science Technology, 23(8) 85002	Namrata Dewan, K. Sreenivas & V. Gupta,	
<b>2008</b>	Anomalous elastic properties of RF sputtered amorphous $\text{TeO}_{2+x}$ thin film for temperature stable SAW device applications	IEEE Trans. Ultrasonics Ferroelectrics, and Frequency Control 55, 552-58, Art. 4476364	N. Dewan, K. Sreenivas, VGupta,	
<b>2008</b>	A comparative study of $\text{Ba}_{0.09}\text{Ca}_{0.05}\text{Zr}_{0.025}\text{Ti}_{0.75}\text{O}_3$ relaxor ceramics prepared by conventional and microwave techniques	Material Chem. and Physics, 112(3)pp 858-862	Sandeep Mahajan, O.P. Thakur, D. K. Bhattacharya and K. Sreenivas	
<b>2008</b>	Enhanced catalytic activity of nanoscale PtI islands loaded on $\text{SnO}_2$ thin film for sensitive LPG gas sensors	Bull. Mater. Sc. (India), 31(3) pp.397-400	Divya Haridas, V. Gupta and K.Sreenivas,	
<b>2008</b>	Influence of temperature stability on sens properties of SAW $\text{NO}_x$ sensor"	Indian. J. Engg. & Mater. Science (CSIR) 15 (4) 352-54.	Divya Haridas, Swati Shandilya, K. Sreenivas & Vinay Gupta,	
<b>2008</b>	Acousto-optical and SAW propagation character	J. Phys. D: Appl. Phys.	Swati Shandilya, K.Sreenivas &	

	of temperature stable multilayered structure based on LiNbO <sub>3</sub> & Diamond,	41(2), Art. No. 25108	Vinay Gupta	
2008	Structural and optical studies on texture LiNbO <sub>3</sub> thin film on (0001) sapphire	Indian. J. Engg. & Mater. Science (CSIR) 15 (2008) 355-57.	Swati Shandilya, K. Sreenivas R.S. Katiyar and Vinay Gupta,	
2008	Zinc Oxide thin film based MEMS acoustic sensor with tunnel for pressure compensation	Sensors & Actuator A 141 (2008) 256-61	Aarti Arora, Anil Arora, V. K. Dwivedi, P.J. George, K. Sreenivas & Vinay Gupta,	

Articles: M. Sayer and K. Sreenivas, "Ceramic thin films: Fabrication and Applications", Science, 247, (1989)1056-1060.

#### Invited talks by K. Sreenivas

- 1) Invited talk Bulk and Thin film magnetoelectric composites and laminates, IIT Chennai – Research Park, (RIC-DRDO), IITMRP. Symposium on advances in Ferro-Piezoelectrics (SAFE 2014), 20-21<sup>st</sup> March 2014
- 2) Keynote address, Magnetoelectric coupling in composites and thin film structures, Jat Memorial Heroes college, 10<sup>th</sup> March 2014, Rohtak
- 3) Keynote address, Magnetoelectric interaction – Materials and device applications, G.V.M. Girls college, Sonepat, Feb 21-22, 2014
- 4) Plenary talk, "Magnetoelectric interaction in two phase magnetoelectric composites. 3<sup>rd</sup> Nat Sem. on recent trends in condensed matter Physics including laser application 5-7 March 2013, Univ. of Burdwan.
- 5) Keynote address: 2<sup>nd</sup> National seminar on condensed matter physics 5-7 March, 2012
- 6) Dept. of Physics, Indian School of Mines, Dhanbad, March 2012.
- 7) First Nat. Conf. on Recent Advances in Polymer Nanocomposites Jan14-15, 2011 at Zakir Husain College
- 8) Adv. Analytical techniques in Res. & Development, 20-21 Dec., 2012, Amity Institute of Applied Physics.
- 9) Invited talk, National Physical Laboratory (NPL) Annual general meeting, MRSI conference, 2009.

#### Conference Presentations and papers published in Proceedings

##### National Conferences: (2009-20014)

1. Theoretical studies of SAW and Acousto-optic characteristics of LiNbO<sub>3</sub> and Diamond based temperature stable multilayered structures", S. Shandilya, M. Tomar, K. Sreenivas and Vinay Gupta, Mini-Colloquia on "Compact Modeling of advanced MOSFET structures and mixed mode applications", Univ. of Delhi, South Campus, New Delhi, 5-6 Jan. 2008.
2. Detection of low intensity UV radiation using surface acoustic wave oscillator", Daipayan Dasgupta, Gupta V, and K. Sreenivas, 16<sup>th</sup> National seminar on Physics and technology of Sensors (NSPTS-16), Lucknow in February 2011. Detection of low intensity UV radiation using surface acoustic wave oscillator", Daipayan Dasgupta, Gupta V, and K. Sreenivas, 16<sup>th</sup> National seminar on Physics and technology of Sensors (NSPTS- Lucknow in February 2011).
3. **Papers presented at the 3<sup>rd</sup> National seminar** on recent trends in condensed matter Physics including laser applications, (TNSCMPLA 2013), Burdwan, West Bengal, 5-7 March 2013, **at the Univ. of Burdwan**.
  - i) Relaxor behavior in dielectric properties of Bi layered BaBi<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> ceramics, A. Khokkar & K. Sreenivas
  - ii) Electrical properties of magnetron sputtered Zinc Oxide thin films, S. Kunj, D. Dasgupta and K. Sreenivas
  - iii) Erbium doped CaBiTi<sub>4</sub>O<sub>15</sub> ferroelectric ceramics, Renuka Bokolia, A. Tanwar, and K. Sreenivas
  - iv) Dielectric and ferroelectric studies on SrBi<sub>1.5</sub>La<sub>0.5</sub>Nb<sub>2</sub>O<sub>9</sub> ceramics, Maya Verma and K. Sreenivas
  - v) Phase transition in (Ba,Ca)(Ti,Zr)O<sub>3</sub> ferroelectric ceramics, Archana Kumar, M. Verma and K. Sreenivas

- vi) Effect of Mn substitution on dielectric and ferroelectric properties in CBT films, A. Tanwas & K. Sreenivas  
 vii) ME coupling effects in piezoelectric PZT and magnetostriuctive Metglas, Poonam, and K. Sreenivas  
 viii) Electrical and magnetic properties of Nickel zinc ferrite ceramics, Lalita and K. Sreenivas
4. Ferroelectric and piezoelectric properties of bismuth layered  $\text{BaBi}_4\text{Ti}_4\text{O}_{15}$  ferroelectric ceramics” Anita Khokhar and K. Sreenivas, National conference on Multifunctional Advanced Materials, 2-4 May 2013, Shoolini University, Solan, H.P.
3. Structural and Dielectric Properties of Four – Layer Aurivillius – Type  $\text{Ba}_{0.25}\text{Sr}_{0.75}\text{Bi}_4\text{Ti}_4\text{O}_{15}$  Ceramics” Parveen K. Goyal, Anita Khokhar and K. Sreenivas, National conference on Multifunctional Advanced Materials, 2-4 May 2013, Shoolini University, Solan, H.P.
4. Structural and Dielectric properties of environmental friendly  $\text{BaBi}_4\text{Ti}_4\text{O}_{15}$  ferroelectric ceramics” Anita Khokhar, Parveen K. Goyal and K. Sreenivas, (poster presentation) in National seminar on frontiers of condensed matter physics from 12-13 April, 2013 at University of Delhi, Delhi.
5.  $\text{Ba}^{2+}$  doping effects on structural and dielectric behaviors of  $\text{SrBiTi}_4\text{O}_{15}$  ferroelectric ceramics, National seminar on advancements in materials science (NAIMS), 10<sup>th</sup> March, 2014, at II India Jat Heroes Memorial college, Rohtak, Haryana.
6. “Study of the Structure and Ferroelectric Behavior of  $\text{BaBi}_{4-x}\text{La}_x\text{Ti}_4\text{O}_{15}$  Ceramics”, **Anita Khokhar**, Parveen K. Goyal, O. P. Thakur and K. Sreenivas (poster presentation) in 59<sup>th</sup> DAE- Solid State Symposium-2014, VIT University, Vellore, Tamilnadu, India. AIP Conf. Proc. (2015).
7. “Dielectric and Ferroelectric Properties of  $\text{BaBi}_{4-x}\text{La}_x\text{Ti}_4\text{O}_{15}$  Ferroelectric Ceramics” **Anita Khokhar**, Parveen K. Goyal, K. Sreenivas, (poster presentation) in National Seminar on Recent Trends in Physics and Chemistry (NSRTPC-15) 25<sup>th</sup> March, 2015
8. “Study of the Relaxor Behavior of  $\text{BaBi}_{4+x}\text{Ti}_4\text{O}_{15}$  Ferroelectric Ceramics” Parveen K. Goyal, **Anita Khokhar**, K. Sreenivas, (poster presentation) in National Seminar on Recent Trends in Physics and Chemistry (NSRTPC-15) 25<sup>th</sup> March, 2015

## Workshops attended

- Workshop on advanced materials for future energy requirements (WAMFER 2012) November 29-December 1, at University of Delhi, Delhi, India. Anita Khokkar and K. Sreenivas
- Advanced Workshop on Broad band Dielectric Spectroscopy, January 17-18, 2014 at University of Delhi, Delhi, India, Anita Khokkar and K. Sreenivas

## International conferences: (2004-2014)

### Presentations/Posters/publications in Conference Proceeding

9. Structural and dielectric properties of  $\text{BaBi}_4\text{-xLa}_x\text{Ti}_4\text{O}_{15}$  ferroelectric ceramics, Conf. Proc., IRCTMD-2013, AMITY University, NOIDA, UP, Noida pp. 63-67
10. Study of the relaxor behavior of  $\text{BaBi}_{4-x}\text{La}_x\text{Ti}_4\text{O}_{15}$  ferroelectric ceramics, Intl. Union of Material res. Societies – Intl Conf. in Asia- 2013 (IUMRS-ICA-2013), Dec. 16-20, 2013, Bengaluru
11. Dielectric response of  $\text{Sr}_{1-x}\text{Ba}_x\text{Bi}_4\text{Ti}_4\text{O}_{15}$  layer structured ferroelectric ceramics, Parveen K. goyal, Anita Khokkar, and K. Sreenivas, Intl. Union of Material res. Societies – Intl Conf. in Asia- 2013 (IUMRS-ICA-2013), Dec. 16-20, 2013, I.I.Sc., Bengaluru.
12. “Photo-conductive studies of Zinc oxide Nanowires grown by Vapour-Liquid-Solid method”, Rashmi Menon, Arijit Chowduri, H.H. Tan, C. Jagadish, K. Sreenivas and Vinay Gupta, Sir Mark Oliphant Nanophotonics (SMONP) 2009, 21– 24 June 2009.
13. Trace level detection of  $\text{NO}_2$  using  $\text{SnO}_2$  thin films, Anjali Sharma, K. Sreenivas, M. Tomar, V. Gupta, IEEE Sensors Application Symposium – SAS 2011, San Antonio, USA, 22-24 Feb 2011, DOI: 10.1109/SAS-2011, Art. No. 5739791, pp.136-140

14. Room temperature detection of trace level NO<sub>2</sub> gas using SnO<sub>2</sub> nanoclusters”, Anjali Sharma, Monika Tomar, K. Sreenivas and V. Gupta, Proc. of Sensors Applications Symposium (SAS 2011), San Antonio, USA, 22-24 Feb. 2011, pp. 145 – 148.
15. Fabrication of SnO<sub>2</sub> thin film based electronic nose for industrial environment”, Divya Haridas, A. Chowdhuri, K. Sreenivas and V. Gupta, Proc. of IEEE Sensors Applications Symposium (SAS), 2010, Art. no. 5439413, pp. 212-15
16. Optical and dielectric properties of CaBi<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> films prepared from sol gel route, A. Tanwar, K. Sreenivas and V. Gupta, (2009), IEEE Intl. Symposium on Applications of Ferroelectrics, Art. No. 5307589.
17. Enhanced photo-response of thermally treated Zinc oxide Ultra-violet photon detector with furnace method and pulsed laser irradiation”, Rashmi Menon, Arijit Chowdhuri, Monika Tomar, K. Sreenivas, and Vinay Gupta, Proc. IEEE Sensors, (2009), Art. No. 5398263, pp. 437-440.
18. Cerium oxide (CeO<sub>2</sub>) thin films for mediator less glucose biosensors, S. Saha, S. K. Arya, S. P. Singh, B. D. Malhotra, Sreenivas K, V. Gupta (2009) Materials Research Society symposium proceedings, Vol. 1138, pp. 45-53.
19. Temperature dependent SPR study of ZnO thin film”, Shibu Saha, K.Sreenivas and Vinay Gupta, Proc. Materials Research Society Symposium, 2009, Vol. 1129, pp. 293-297
20. “Surface Plasmon Resonance Study on Effect of Momordica Charantia L. (Bitter gourd) on Glucose”, Shibu Saha, Arijit Chowdhuri, Navina Mehan, K. Sreenivas and Vinay Gupta, Sir Mark Oliphant Nanophotonics (SMONP) 2009, 21–24 June 2009.
21. Enhanced photo response of thermally treated Zinc oxide ultra violet photon detector with furnace method and pulsed laser irradiation, Rashmi Menon, Chowdhuri A, M. Tomar, K. sreenivas and Gupta V., Proceedings of IEEE Sensors, Christchurch, New Zealand (2009) Art. No. 5398263, pp. 437-440
22. Structural and dielectric properties of pulse laser deposited BaTiO<sub>3</sub>-CoFe<sub>2</sub>O<sub>4</sub> multiferroic composite thin films, Shivani Agarwal, Gupta V, and K. Sreenivas, Intl. conference on Nano and Microelectronics, ICONAME, (2008) Jan03-05, Pondicherry, Puducherry.
24. “Enhanced oxygen adsorption activity by CuO catalyst clusters on SnO<sub>2</sub> thin film based sensors”, A. Chowdhuri, Divya Haridass, K. Sreenivas & Vinay Gupta, Proc. Intl. Conf. on Sensing Technology (ICST) 2008, Tainan, Taiwan Nov 30-Dec 03, 2008, Art. No. 4757167, pp. 553-556
25. “Enhanced LPG response characteristics of SnO<sub>2</sub> thin film based sensors loaded with Pt clusters”, Divya Haridass, Arijit Chowdhuri, K. Sreenivas and Vinay Gupta, Proc. of International Conference on Sensing Technology (ICST) 2008, Tainan, Taiwan Nov 30 - Dec 03, 2008, Art. No. 4757139, pp. 418-421
26. “Study on the effect of temperature on optical properties of ZnO thin film using SPR”, Shibu Saha, K. Sreenivas and Vinay Gupta, MRS fall meeting, Boston, Dec. 01-05, 2008.
27. Enhanced ultraviolet photo-response of nanostructure zinc oxide (Zn) thin film irradiated with pulsed laser, Vinay Gupta, Rashmi Menon and K. Sreenivas, Conference on Optoelectronic and Microelectronic Materials and Devices, (2008) Proceedings COMMAD, Art No. 4802091, pp. 55-58.
28. Influence of the Particle Size on Acoustic Phonon Modes of ZnO Nanocrystals”, H.K. Yadav, K. Sreenivas, V. Gupta, S.P.Singh, B. Sunderkannan & R. S. Katiyar, Mater. Res. Soc. Symp. 957 (2007) 367-72.
29. “ZnO-Sn bilayer Ultraviolet Photon Detector with Improved Responsitivity”, H. K. Yadav, K. Sreenivas & Vinay Gupta, Mater. Res. Soc. Symp. 957 (2007) 195-200
30. A comparative study of Ba<sub>0.95</sub>Ca<sub>0.05</sub>Zr<sub>0.25</sub>Ti<sub>0.75</sub>O<sub>3</sub> relaxor ceramics prepared by conventional and microwave sintering techniques”, Sandeep Mahajan, O. P. Thakur, D. K. Bhattacharya, and K. Sreenivas, Intl. Conference on

31. Persistence of ferroelectric pseudo cubic structure of  $Pb_{0.55}Ca_{0.45}TiO_3$ , Arun Kumar singh, K. Sreenivas, R. S. Katiyar, and V. Gupta, Presented at the 2<sup>nd</sup> Intl. Workshop on smart materials and structures, Kiel, Germany, Aug 29-31, 2007.
32. Influence of the particle size on acoustic phonon modes of ZnO nanocrystals, H. K. Yadav, K. Sreenivas, V. Gupta, S. P. Singh, B. Sunderkannan and R. S. Katiyar, Proc. Material Research Symposium, vol. 957 (2007) pp. 367-372
33. ZnO-Sn bilayer ultraviolet photon detector with improved responsivity, H. K. Yadav, K. Sreenivas, V. Gupta, Proc. Materials Research symposium vol. 957 (2007) pp. 195-200.
34. Temperature coefficient of elastic constants of sputtered  $TeO_2$  thin film for zero TCD SAW devices", N. Dewan, M. Tomar, K. Sreenivas & V. Gupta, Proc. IEEE Ultrason. Symp. Sept. 2005, Netherlands p.1311-14
35. "Optical and structural properties of sputtered wave guiding zinc oxide thin films, Navina Mehan, K. Sreenivas and Abhai Mansingh, Proc. of SPIE –Integrated Optics and Photonic integrated circuits, 27-29 April (2004), Strasbourg, France, Vol. 5451, pp.251-258.
36. Low Intensity Ultraviolet light detection using a  $ZnO/LiNbO_3$  SAW Oscillator, Sanjeev Kumar, Parmanand Sharma, Vikas Gulia and K. Sreenivas, Proceedings of the 6<sup>th</sup> Intl. Conf. on Optoelectronics, Fiber optics, and Photonics, (Photonics 2004), Cochin, India, Dec. 12-16, (2004)

**Total Publication Profile optional**

Books Chapters in 3 books

In Indexed/ Peer Reviewed Journals 150 (1985-2015)

Articles One, and one Chapter in a book

Conference Presentation about 75 ( to be updated)

**Public Service / University Service / Consulting Activity**

Director, University Science Instrumentation Center (USIC) , Univ. of Delhi, providing services to DU research community  
Dean, International Relations, Univ. of Delhi (Since Dec, 2007), coordinating Erasmus Mundus exchange programs

Governing Body member: Bhagini Nivedita College (2013 – continuing)

Governing body member – Maharaja Agrasen college(2007-2009) , Keshav Mahavidyalaya (2009-2012)

Governing Body Chairman – Bhaskaracharya college of Applied Sciences (2012 – continuing)

UGC nominee as an expert for Center for advanced studies at University of Burdwan, and Indian School of Mines, Dhanbad

Member- Board of Research Studies – Delhi Technological University (DTU), and Netaji Subash Institute of Technology (NSI

**Professional Societies Memberships**

Lasers and spectroscopy society of India

Electron Microscope society of India

**Projects (Major Grants / Collaborations)**

Sponsored Research Projects	PI/Co-PI	Funding Agency	Duration
1) Preparation of sol gel derived PZT powders and thin films	PI	DRDO/SSPL	1997-1998
2) Ferroelectric thin film capacitors for non-volatile memories	PI	DST	1999-2001
3) Thin film SAW devices for low and high frequency applications	PI	DOE/MIT	1999-2005
4) Studies and applications of solid state reactions	Co-PI	DST	2000-2001
5) Electro-optic modulators and SPR fiber optic sensor	PI	UGC	2002-2005
6) Integration of Piezoelectric films with in MEMS devices	PI	DRDO/SSPL/CARS	2003-2005
7) Development of nano-sized powders, & catalysts for gas sensors	PI	DST	2004-2007
8) SiC film by sputtering and pulsed laser deposition	Co-PI	DRDO/Lastec	2005-2008
9) C-axis LiNbO <sub>3</sub> films for electro-optic applications	Co-PI	DRDO	2005-2008
10) Development of ZnO thin films for Opto-Electronic Applications	PI	DRDO	2007-2010
11) Multifunctional ZnO for Acousto-Electric and Opto-Electronic Applns.	PI	DRDO	2007-2010
12) Magnetron source development for metal films	Co-PI	DST	2009-2012
13) Development of prototype SAW sensor for NOx gas sensing	Co-PI	DST	2009-2012
14) Design and development of Functional Materials (ZnO)	Co-PI	DRDO	2009-2011
15) Indo –Taiwan bilateral research project	PI	FICCI	2012-2015

### International/National Collaborative research activities and partners

- 1) Visiting research Professor, at the Univ. of New South Wales, Australia (2008)
- 2) Institute for Materials Research, Tohoku University, Japan, Dr A. Makino & Dr. P. Sharma
- 3) Dept. of Physics, CARPATH center Magnetic materials and Applications. Iasi, Romania – Prof. O. F. Caltun
- 4) National Cheng Kung University, Taiwan, Prof. C. T. Lee and Prof. Hsin Ying Lee
- 5) Swiss Federal Institutes of Technology, EPFL Laboratory of Ceramics, Switzerland Prof. Nava Setter
- 6) Royal Institute of Technology, Stockholm, Sweden – Prof. K. V. Rao
- 7) Australian National University, Canberra, Australia – Prof. C. Jagadish and Prof. H.H. Tan
- 8) National Physics Laboratory, New Delhi. Dr. Ajay Dhar
- 9) Central electronics and Engg. Research institute (CEERI), Pilani, Piezoelectric Zinc oxide films
- 10) Defense Metallurgical Research labs, Hyderabad, Ferroelectric, Excimer laser PLD films - Dr. A.R. James
- 11) Solid state physics labs (SSPL), Delhi, Dr .O.P. Thakur, Dr. D. K. Bhattacharya, Dr. Chander Prakash

Other Details: Ph.D. students

<b>Names of the students who completed their Ph.D.</b>	<b>Completion Date</b>	<b>Thesis Topic</b>	
1. Ms. Ranu Nayak	June 2002	Acouto-optic interaction in BaTiO <sub>3</sub> , KNbO <sub>3</sub> and TeO <sub>2</sub> thin films layered structures	
2. Mr. Parmanand Sharma	June 2002	Studies on photoconductivity and surface acoustic wave interaction with Ultra violet light in ZnO films	
3. Mr. Arijit Chaudhuri	Mar 2003	Studies on H <sub>2</sub> S gas sensors based on SnO <sub>2</sub> films loaded with CuO dotted islands	
4. Ms. Monika Tomar	Nov 2003	Studies on temperature stability of LiNbO <sub>3</sub> and ZnO thin films based surface acoustic wave devices	
5. Ms. Aparna Saxena	July 2004	Pyroelectricity and internal bias field effects in Phosphoric acid doped Triglycine Sulphate (TGSP) single crystal	
6. Mr. Arun Singh Kumar	Dec 2004	Dielectric and ferroelectric studies on sol-gel derived Ca doped PbTiO <sub>3</sub> ceramics	
7. Mr. Sanjeev Kumar	May 2005	Photoconductivity and acoustic-electric effect in ZnO and Mg alloyed films for ultraviolet photodetector applications	
8. Ms. Rajni Jain	May 2006	Strontium Bismuth Tantalate ceramics for piezoelectric applications	
9. Mr. Amit Malik	Nov 2007	Growth and characterization of infrared detector materials	
10. Mr. Sandeep Mahajan	June 2009	Synthesis and characterization of Barium Titanate based ferroelectric ceramics	
11. Mr. Amit Chowdhary	Oct 2009	Dynamics of memory effect in ferroelectric liquid crystals	
12. Mr Amit Tanwar	Jan 2011	Dielectric and piezoelectric properties of stoichiometric and doped CaBi <sub>4</sub> Ti <sub>4</sub> O <sub>15</sub> ferroelectric ceramics and thin films	
13. Ms Maya Verma	Mar 2011	Dielectric and ferroelectric studies on Strontium Bismuth Niobate ceramics and thin films	
14. Ms Rashmi Menon	April 2011	Growth and characterization of ZnO films for ultraviolet photodetector applications	
15. Mr. P.L. Meena	Feb 2014	Multicomponent oxides for ferroic applications	
16. Ms. Shivani Agarwal	Oct. 2015	Studies on Multi-ferroic ceramics and thin films	
17. Mr. Daipayan Dasgupta	Feb. 2015	Development of thin film surface acoustic wave sensor	
18. Ms. Anita Khommar	May 2015	Dielectric, and ferroelectric properties of stoichiometric and A-site substituted BBT ceramics	
19) Ms. Lalita Chauhan	Oct 2016	Structural, electrical and magnetic properties of NiFe <sub>2</sub> O <sub>4</sub> powders and ceramics	
20) Ms. Renuka Bokolia	Oct 2017	Light upconversion effects in single doped (Er <sup>3+</sup> ), co-doped (Er <sup>3+</sup> & Yb <sup>3+</sup> ) and tri-doped (Er <sup>3+</sup> , Yb <sup>3+</sup> & W <sup>6+</sup> ) Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> ferroelectric ceramics	
21) Mr. Saurabh Kunj	Apr 2018	Defect mediated room temperature ferromagnetism in Co, Ni and Fe doped ZnO nano powders.	
Present research group members (Registered from 2016/17 onwards)	Four students	Working on different topics,Multiferroics, ferrite- nano particles, Piezoelectrics, and Luminescence	

**Other activities:**

- 1) Conducted Annual training program for lab staff at USIC during the years (2010 to 2015)
- 2) Advanced workshop on Broad band Dielectric Spectroscopy, January 17-18, 2014, Univ. of Delhi, Delhi
- 3) Delhi University Coordinator for Erasmus Mundus student international exchange programs (**2009-2013**).
- 4) Organized Int.l workshop on the Bologna Reforms at the University of Delhi, 30<sup>th</sup> Nov. 2009
- 5) Initiated the annual Indo-Dutch student contact seminars on Management and Cultural context, in association with Miranda House and Shri Ram college of Commerce of Delhi University (2009 onwards)
- 6) Organized Indo-European conference on Quality Assurance in Higher Education, 6-7 May, 2010
- 7) Coordinated with U21 Annual General Meeting of Vice Chancellors of U21 universities, 28-30 April 20



Prof. K. Sreenivas  
Signature of Faculty Member

Signature & Stamp  
Head of the Department

